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ABSTRACT

This study attempted to determine whether counselor effectiveness designated by a high level of performance in a first counseling practicum as ranked by faculty supervisors, can be predicted with a knowledge of the extent to which the individual possesses the personal qualities of open-mindedness, tolerance for ambiguity, general mental health, and personal-social interest. Subjects were 71 students (graduate) enrolled in the Counseling and Personnel Services curriculum at Western Michigan University. The Rokeach Dogmatism Scale (RDS) was used to test for open-mindedness; the Berkeley Public Opinion Questionnaire (Berkeley POQ) for tolerance; Minnesota Multiphasic Personality Inventory (MMPI) for general mental health; and the Strong Vocational Interest Blank (SVIB) for personal-social interest. Peer Group Ranking (PGR) was also used. Conclusions include: (1) strong predictive potential of PGR, (2) the relationship between open-mindedness, tolerance, personal-social interest, general mental health and effective counseling was found to be positive but insignificant. (KJ)

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PREDICTING COUNSELOR EFFECTIVENESS: A MULTIPLE REGRESSION APPROACH

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INTRODUCTION

The identification and development of criteria for initial admission of counselor candidates to counselor education programs remain very difficult problems. Although most counseling theorists agree that the personality of the counselor is one of the most critical variables in determining the effectiveness of counseling behavior (Allen, 1964; Ford and Urban, 1963) the selection of candidates in counseling seems to be based almost exclusively on academic credentials of applicants (APA, 1954; APGA, 1964). Grade point averages are used because little agreement on theoretical grounds exists in terms of the personal qualities which are characteristic of successful counselors. In addition, reliable instruments for measuring such qualities are not necessarily available, even if such an agreement was obtained.

Efforts to identify desirable personal traits of counselors have progressed from the simple listing of personal traits to the use of scientific measures of personality (Cottle, 1953; Cottle and Lewis, 1954; Campbell, 1962; Cox, 1945; Jones, 1955). Efforts are further directed toward synthesizing the results in order to discover a personality syndrome universally characteristic of successful counselors.

These efforts to date, however, have failed to develop a specific "blue print" of personal qualities of successful counselors.

The study of personality characteristics per se is only one aspect of the study of counseling effectiveness. A person is not a successful counselor by virtue of some combination of traits. The pattern of his personal characteristics must bear some relationships to the demands, characteristics, activities and goals of counseling. Therefore, the relationship of personality variables to success in the counselor's performance of his role has received considerable notice.

Investigations of this nature have led to the conclusion that men and women of variety of personality types can function effectively in counseling. There seems to be no single personality trait which is uniquely suited to counseling (Tyler, 1961). Evidence further indicates that the attitudes, motivation and beliefs of the counselor are critical in establishing effective relationships (Abeles, 1968; Fiedler, 1950a; 1950b; 1951; McGowan, 1954; Menninger, 1958). A major focal point of agreement among authorities regarding personality variables which are essential for effective counselor performance is that open-mindedness, tolerance for ambiguity, general mental health and interest in personal-social fields are concepts of prime importance. All may have a predictive

relationship on whether or not the aspiring counselor can display counselor behavior leading to success in counseling.

In view of this knowledge, perhaps an immediate approach to the problem of selection is to assess these personality attributes and relate them to perceived effectiveness of counselor behavior. It was recognized that assessment of personality will be a difficult task, and effectiveness of counseling behavior will be difficult to measure; however, present instrumentation permits, in a measure, assessment and investigation of these qualifications with predictive hypotheses to be generated with a degree of certainty greater than chance.

THE STUDY

The study attempted to determine whether counselor effectiveness designated by high level of performance in a first counseling practicum as ranked by faculty supervisors, can be predicted with a knowledge of the extent to which the individual possesses the personal qualities of open-mindedness, tolerance for ambiguity, general mental health and personal-social interest.

Furthermore, the study attempted to determine whether these personality qualities were perceived by peers in each other, and whether

those most endowed with the attributes would stand out, not only as the choice by the faculty supervisors for high ranking in level of performance but also the best choice for a counselor by peers.

THE SAMPLE

The subjects consisted of 71 students selected from a group of graduate students enrolled in the Counseling and Personnel Services curriculum at Western Michigan University, between the Spring session of 1964 and Winter semester of 1966. These students have complete psychological test scores and were also exposed to a basic encounter experience while taking the introductory course in Counseling and Personnel Services, School Services 680, "The Personnel Worker and His Role". In the introductory counseling practicum course, School Services 683, "Theory and Laboratory Practice" each student had been involved in an average of eight hours a week of intensive counseling in the school laboratory, and in schools and were given careful and intensive counseling supervision by a University faculty member. Each counselor candidate was rated and ranked by his faculty supervisor accerding to his counseling competency, with the ranking serving as a measure of effectiveness of his level of performance.

Two sub-groups constituted the population sample: 48 male and 23 female counselor candidates.

PROCEDURE

For the purposes of the investigation, open mindedness was operationally defined as the scores obtained by the subject on the Rokeach Dogmatism Scale (RDS Rokeach, 1960, pp. 70-100). The tolerant personality was defined by the score obtained on the Berkely Public Opinion Questionnaire (Berkely POQ, Adorno, et. al., 1950). Rushlau (1957) in a study of tolerance for ambiguity as a general behavior type, found the questionnaire and adequate measure of ambiguity tolerance. The scores obtained on the clinical and ego strength scales of the Minnesota Multiphasic Personality Inventory (MMPI) defined the personal adjustment and general mental health level of each candidate. Lastly, the personal-social interest of each subject was defined by the score obtained on the Occupational Group V Area of the Strong Vocational Interest Blank (SVIB).

The supervisory ranking data in the introductory practicum was designated as the criterion variable. The peer group ranking and the scores obtained from the RDS, Berkely POQ, SVIB Occupational Group V Area, and the clinical and ego strength scale scores were designated as the predictor variables.

The student samples represented in the study took School Services 683 from three different faculty members. Thus it was recognized that the use of the supervisory ranking as an index of counselor effectiveness has a limitation--the pooling or ranking of three different faculty supervisors and treating them as if they all were the same. It was assumed, however, that the faculty supervisors in question reflect similar viewpoints as to the necessary and essential elements for developing effective counseling relationships. This assumption found support in research literature which suggests that therapists of different orientation tend to be more similar than different in their therapeutic behavior (Fiedler, 1950a; 1950b; 1951; Strupp, 1955a; 1955b; 1958; Truax and Carkhuff, 1965). Research information also suggests that different supervisors agree more than they disagree with each other in sorting for effectiveness in counseling relationship of counselors (Scott, 1965; Whitely, Mosher, Donaghy, 1967).

While the assumption raised above found support in research literature, a step was taken to determine the extent of agreement in the supervisor's ranking. The three University faculty members in question were asked to rank according to potentials for counseling effectiveness, the content of counseling tapes of six counselor

candidates who participated in an introductory practicum during the Winter semester of 1968, under a fourth instructor. The Spearman Rho was computed to ascertain the relationships of rankings made. Rank order correlations of .76, .60, and .72 were obtained. The mean rank correlation was recorded at .69 which yields a critical ratio of 2.137. This critical ratio is significant at the .05 level.

The investigation proceeded basically within two phases.

Phase one involved the computations of the mean scores and standard deviations for each sub-group. Mean scores obtained for each sub-group were compared for statistical or significant differences.

Phase two involved the major tasks purported in the study--predictive analyses--simple, partial and multiple. The simple correlation study was aimed to discover the relationship between the criterion and the predictor variables and to find out the inter-relationships among predictor variables. Also, the data obtained provided the data for multiple correlational treatment. The partial correlation analysis was undertaken to determine the predictive potentials of each predictor variables in forecasting counselor

effectiveness, while other variables were held constant (Guilford, 1956). The final and main task was the multiple regression approach to the study of prediction of counselor effectiveness. The predictor variables were pooled and manipulated in various combinations in a multiple regression equation, designed to produce the result(s) with the highest predictive value(s). To increase the significance of the obtained multiple R's (McNear, 1962) the ratio between the number of cases (N) and the number of observations (n) was improved by decreasing the n successively from 23 to 18, then 14 to five respectively. The total pool of 23 variables included all scores obtained from the psychological test pattery. The 18 predictor variables excluded the validity scores of the MMPI. The 14 variables dropped the uncorrected scale scores. Lastly, the five predictor variable problem substituted a single test score, the ES score, to represent the personal adjustment and general mental health level of counselor candidates. Twenty multiple R's were generated by the 14 predictor problem, 16 for the five variable problem. The multiple R's obtained were tested for significance at the .05 level.

FINDINGS

Normative analysis of data. Mean differences statistically significant at the .05 level were obtained between the male and female subgroups on supervisor's ranking, peer group ranking and all test scales

and test sub-scales of the objective test measures. The male counselors were found to be significantly more dogmatic, less tolerant of ambiguity and with lower personal social interest than their female counterparts. They nevertheless were ranked significantly higher in potentials for counseling success, by the ranking faculty supervisor and peers.

Both sub-groups also differ significantly on personality profiles generated by the MMPI clinical ego strength scales scores. The clinical profile described the female counselor-candidates as having the significant tendencies to be excitable, depressed and to develop neurotic patterns of social dependency. The male counselors on the other hand were characterized as significantly more active, motivated and with tendencies to develop deeper hostile and aggressive behavior.

The ES scores described the female counselors as mild and mannerly with significant tendencies to be highly affected and dependent and with interests in common with men. The male counselors were interpreted as having the significant tendency to be alert, independent, reliable, resourceful, determined and responsible; and, with interests in common with women.

CORRELATIONAL FINDINGS

Simple correlation. Peer Group ranking correlated positively and significantly with the criterion. The relationship was recorded at

.72 for the females and .63 for the males. Both these values are significant at the .05 level.

Positive but insignificant relationships were calculated between the criterion and the measures of open-mindedness, and tolerance for ambiguity. Almost zero relationships were recorded for the rest of the predictor variables.

On the basis of the above findings it was tentatively concluded that of the predictor variables examined, the PGR has the only real potential value for predicting counseling effectiveness.

The intercorrelational study among predictor variables revealed negative and positive but insignificant relationships, except for the tolerance for ambiguity measure which correlated positively and significantly with the open-mindedness data. The MMPI inter-correlations indicated that there are rather consistent groupings of behavioral features among counselor candidates. Personality traits relative to general mental health occur in clusters which overlap and interrelate in many ways.

Partial correlation. As mentioned, the results of the simple correlation study suggested that of the predictor variables examined, the PGR is the only predictor of significant predictive value. To determine whether or not a relationship between each predictor and

the criterion really exists, a partial correlation study was made (Guilford, 1956). The relationship between each predictor and the criterion was ascertained while holding the other variables constant.

The strength of the forecasting potential of the PGR was substantiated. The RDS and the POQ showed positive but insignificant relationship with the SR data. Of the MMPI clinical scales, the Mf, psychasthenia (Pt) schizophrenia (Sc) scales showed moderate correlations for the female sub-group; and the Pd psychodevoide and social intelligence scales for the male sub-group. The SVIB personal-social correlation index was likewise moderate for the females.

It appears from the results of the partial correlation study that for the female counselor candidates, that drive, high motivation and sustained interest in the personal-social field can be predictive of effective counseling performance.

Multiple correlation. It would seem at first that any test that correlate insignificantly or zero with the criterion would have no value for predicting that criterion. It is true that alone, it has no value whatsoever for doing so, but if the test is combined with other tests and data with which it has some correlational relationships (Guilford, 1956), then it does have value. Hence using this rationale, all the predictor variables were combined with the PGR data in a multiple correlation equation to produce the highest

possible relationship that could predict effectiveness of counseling performance.

A total poole of multiple R's were computed from 23, 18, 14 and five predictors. Realizing that the small number of cases used in comparison with the number of observations especially for the female group, would affect the significance of the R values, various combinations of predictor variables that would generage multiple R's of differing values were calculated from the 14 and the five variables problem only.

The results of the investigation was note worthy. All the combinations which included the PGR data were found to be the only ones with significant predictive values. Multiple R's ranged from .73 to .90 for the female sub-group and .64 to .76 for the male counterparts. In comparing these results with the simple correlation between the PGR and the SR data, a minimal increase in the size of the correlation data was observable from .01 to .13 for the males and up to .17 for females. These results again ascertained the significance of the PGR data for prediction.

The pooling of all objective test data produced substantial but insignificant multiple R's. The combinations which utilized the RDS and the Berkley POQ mainly generated the smallest multiple R values.

The significance of the sizes of multiple R's values as a result of the reduction of the number of observations, was tested by using Guilford's (1956) formula for determining the significance between multiple R's. The results revealed no significant differences between the total multiple R's from 23, 18, 14 to five predictor variables, except for the female group where the multiple R's from the 14 and the five variables were found to be significant at the .05 level.

Using the same formula, the additive effects of the objective test measures to the PGR data, when examined, showed significance for the female sub-group but no significance for the male counselor group.

CONCLUSIONS

The following conclusions have been reached within the limitations of the study.

1. The limited predictive potentials of the measures of open-mindedness, tolerance for ambiguity, general mental health and personal-social interest was discovered; the strong predictive potential of the PGR was ascertained.

2. The relationship between open-mindedness as measured by the RDS and effectiveness of counseling is positive but insignificant.

3. The relationship between tolerance for ambiguity as measured by the Berkley POQ effectiveness of counseling is positive but insignificant.

4. Positive but insignificant relationship exists between personal-social interest and counselor effectiveness among the male sub-group; negative but insignificant relationship exists for the female sub-group.

5. General mental health as assessed by the MMPI clinical scales and the ego strength scale is not significantly related to effectiveness of counseling behavior.

6. Male counselors were perceived to be more effective counselors than their female counterparts by peers, and the ranking faculty supervisor.

7. The additive effect of the objective measures of personality to the PGR data is statistically significant for the female counselor candidates.

DISCUSSION

The study was normative and predictive and limited to a certain extent by the sampling techniques used, however, the findings are worthy of attention.

It was discovered that the degree to which open-mindedness tolerance for ambiguity, general mental health and personal-social interests operate between male and female counselor candidates is statistically significant. Such differences, however, are too small to be of clinical utility. Such differences which arose, however, appear to be psychologically meaningful.

The commonality of interest among counselor candidates as revealed by the MMPI and the ego strength scale is noteworthy. This is an observation which seems to be logical in counseling, for in the counseling relationships, the counselor should be able to free himself from the limits of narrow and inappropriate masculine and feminine roles (Farsons, 195). The nature of the counseling task implies the counselor's need for a broader concept which includes behavior from both roles, in order that he may always have, readily available, behavior which is appropriate for any given situation.

The predictive study provided interesting data. The insignificant relationship between counseling effectiveness and personality attributes of open-mindedness and tolerance for ambiguity did not lend support to the findings of other studies like Halkides (1958), Kagan, (1961), Truax and Curhkuff (1965), Butler, Rice and Wagstaff (1962), Ellsworth (1963), Jourard (1964) and Allen (1966) where effectiveness of counselor trainees was found to be a function of psychological openness.

A major finding of the study was the demonstrated reasonably high correlation between the PGR and the SR data which were both subjective judgments based on perceived counselor behavior. This finding is noteworthy (McDougall, 1961; Harshman, 1964; Embree, 1954; Stefflree, et. al., 1962; Dilley, 1964; Dann, 1965). It

suggests that the use of peer rating techniques in appraising selected attributes of counselor candidates seems to merit consideration in gaining insight into the effectiveness of his performance as well as his progress and achievement.

The value of low intercorrelations among tests in a battery was discovered which according to Guilford (1956) will be found when each test measures a unique factor. The low intercorrelations the RDS and POQ have with the MMPI scales and the SVIB signified that each of these measures assesses a unique personality factor. The MMPI and the SVIB measure personality factors which are not measured by the RDS and POQ. The overlap of 35 per cent, however, between the RDS and the POQ indicated that these two instruments do not measure uniquely what they purport to measure.

The low correlations found between the criterion and the predictor variables seem to indicate that a practical criterion like training achievement or job performance, or as in the study the effectiveness of counseling is usually a complex variable. Guilford says (1956) that in multiple correlation study, low intercorrelations of tests with a practical criterion can be tolerated provided we have enough tests in a battery and provided their intercorrelations are near zero. (p. 408) There were enough tests in the battery used in the

study and most of their intercorrelations were near zero, except the intercorrelations among the Sc, Pa, Pt, and Hy scales of the MMPI where overlaps of up to 60 per cent were recorded. When combined in a multiple regression equation for determining multiple R's, however, substantially high and statistically significant R's tenable at the .01 and .05 levels were obtained only where the PGR data was utilized. This phenomenon gave evidence to conclude with certainty that the PGR data is the only predictor variable of strong predictive value in forecasting counselor effectiveness. The additive effects of the objective test measures when tested for significance was found to be significant at the .05 level for the female counselor candidate group. This seems to suggest that these variables, open-mindedness, tolerance for ambiguity, general mental health and personal-social interest merit further inquiry as they relate to female counselor's or feminine behavior in counseling.

The above findings should be subjected to further investigation. The results had not been as fruitful as desired, but there is reason to be optimistic about the possibility of discovering more information on the characteristics of counselor candidates and practitioners, for use as criterion measures of counseling skills effectiveness and success.

TABLE 4.1

MEANS, STANDARD DEVIATIONS AND CRITICAL RATIOS FOR NORMATIVE AND SAMPLE GROUPS, MALE AND FEMALE COUNSELOR CANDIDATES

	MALE				FEMALE				
	Normative (106)		Sample (48)		Normative (65)		Sample (23)		Critical
	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.	Ratio
SR			6.67	4.31			7.22	3.39	3.60**
PGR			5.19	3.69			6.39	3.24	4.11**
RDS	-18.90	22.19	-20.52	10.73	-16.70	20.95	-26.91	20.62	14.20**
POQ	-71.29	42.00	-71.21	39.70	-78.75	45.90	-63.74	53.58	13.58**
Hs	12.11	2.98	12.15	2.78	14.18	3.69	13.48	2.68	19.10**
D	16.40	3.95	16.83	3.22	18.32	4.52	18.48	5.02	4.48**
Hy	21.19	4.11	21.81	3.32	23.56	3.99	23.70	3.40	21.73**
Pd	22.19	3.20	22.92	3.63	22.46	3.99	23.00	3.61	7.76**
Hf	27.19	6.87	26.90	4.69	35.70	4.05	37.29	4.87	87.42**
Pa	10.04	2.41	10.29	2.24	9.49	2.68	9.87	2.85	7.00**
Pt	25.80	5.11	25.98	2.98	26.70	4.20	26.35	5.56	4.61**
Sc	25.80	5.11	25.21	3.55	25.90	6.84	26.00	4.40	7.67**
Ma	19.94	3.77	19.35	2.75	17.56	6.18	19.13	3.99	2.44*
Si	18.30	9.05	19.54	6.79	20.32	4.92	20.35	7.11	4.76**
SVIB	53.62	7.74	52.96	8.74	53.19	6.99	55.17	7.99	10.52**

** Significant at the .01 level
* Significant at the .05 level

TABLE 4.2

PEARSON PRODUCT MOMENT CORRELATIONS BETWEEN CRITERION AND PREDICTOR VARIABLES AND BETWEEN PREDICTORS (FEMALE SUB-GROUP)
N = 23

Variables		X_2	X_3	X_4	X_5	X_6	X_7	X_8	X_9	X_{10}	X_{11}	X_{12}	X_{13}	X_{14}	X_{15}	X_1
PGR	X_2	-	-.12	.01	.11	.06	.11	-.14	-.30	.24	.07	-.02	-.24	.17	.10	.72
RDS	X_3			.64	-.03	-.02	-.16	-.38	.23	-.23	-.07	-.13	.18	-.03	.16	.11
POQ	X_4				-.07	-.25	-.21	-.18	.36	-.28	-.28	-.19	.17	-.14	.41	-.09
Hs	X_5					.63	.58	.24	-.11	.44	.73	.73	.10	.45	.08	.06
D	X_6						.21	.12	-.32	.13	.85	.69	-.17	.83	-.13	.07
Hy	X_7							.33	.14	.61	.27	.32	.15	.02	.07	.06
Pd	X_8								-.18	.15	.21	.44	-.13	.19	.17	-.16
Mf	X_9									-.07	-.32	-.17	.33	-.29	.16	-.25
Pa	X_{10}										.16	.18	.29	.07	-.01	.20
Pt	X_{11}											.84	-.17	.65	.02	.00
Sc	X_{12}												.02	.48	.26	.08
Ma	X_{13}													-.38	.02	-.02
Si	X_{14}														-.33	.01
SVIB	X_{15}															.14
SR	X_1	.72	.11	-.09	.06	.07	.06	-.16	-.25	.20	.00	.08	.02	.01	.14	-
Mean		6.39	-26.91	-63.74	13.48	18.48	23.70	23.00	37.39	8.87	26.35	26.00	9.19	20.35	55.17	7.22
SD		3.24	20.62	53.58	2.68	5.02	3.40	3.61	4.87	2.85	5.50	4.40	4.99	7.11	7.99	3.37

TABLE 4.3

PEARSON PRODUCT MOMENT CORRELATIONS BETWEEN CRITERION AND PREDICTOR VARIABLES AND BETWEEN PREDICTORS (MALE SUB-GROUP)
N = 48

Variables		X_2	X_3	X_4	X_5	X_6	X_7	X_8	X_9	X_{10}	X_{11}	X_{12}	X_{13}	X_{14}	X_{15}
PGR	X_2	-	.18	-.03	-.09	-.18	.04	-.01	-.11	.01	-.09	.20	-.04	-.17	.11
RDS	X_3			.64	-.26	.05	-.08	.01	-.15	-.08	-.17	-.16	.03	.14	.01
POQ	X_4				-.06	.01	-.09	-.10	-.16	-.24	-.20	-.22	-.24	.46	.21
Hs	X_5					.20	.41	.45	.07	.12	.40	.56	-.26	-.13	.26
D	X_6						.22	.28	.23	.12	.45	.08	-.23	.01	-.19
Hy	X_7							.27	.05	.26	.32	-.03	-.16	-.16	-.02
Pd	X_8								.11	.53	.40	.60	-.02	-.28	.11
Mf	X_9									.09	.36	.17	-.02	.08	.04
Pa	X_{10}										.28	.19	-.07	-.14	-.04
Pt	X_{11}											.35	-.08	.10	-.02
Sc	X_{12}												-.01	-.20	.05
Ma	X_{13}													-.23	.27
Si	X_{14}														.35
SVIB	X_{15}														
SR	X_1	.63	.18	.10	.02	-.02	-.03	.04	-.04	-.08	.04	.17	-.27	.16	-.08
Mean		5.19	-20.52	-71.21	12.15	16.83	21.81	22.93	26.96	10.29	25.98	25.21	11.55	18.54	52.96	6.67
SD		3.69	19.73	30.70	2.78	3.22	3.32	3.63	4.69	2.24	2.98	2.55	2.56	6.79	8.74	4.31

TABLE 4.4

PARTIAL CORRELATIONS BETWEEN THE CRITERION AND PREDICTOR VARIABLES

Variables	Male	Female
PGR	.69	.93
RDS	.16	.25
POQ	.28	.12
Hs	.24	.40
D	.00	.40
Hy	.23	.17
Pd	.50	.29
Mf	.20	.45
Pa	.19	.32
Pt	.20	.54
Sc	.17	.59
Ma	.17	.38
Si	.41	.38
SVIB	.14	.63
N	48	23

TABLE 4.5

MULTIPLE CORRELATION COEFFICIENTS BETWEEN THE CRITERION AND 14 PREDICTOR VARIABLE SCORES

Predictors	Male (N = 48)		Female (N=23)	
	R	R^2	R	R^2
A 2 3 4 5 6	.76**	.5776	.90**	.8100
B 2 3 5 6	.75**	.5625	.86**	.7396
C 2 4 5 6	.75**	.5625	.89**	.7921
D 2 3 4 6	.65*	.4225	.79**	.6241
E 2 5 6	.65*	.4225	.79**	.6241
F 2 3 6	.65*	.4225	.76**	.5776
G 2 4 6	.65*	.4225	.76**	.5776
H 2 6	.64*	.4096	.74**	.5476
I 2 5	.65*	.4225	.73**	.5229
J 2 4	.64*	.4096	.74**	.5476
K 2 3	.64*	.4096	.73**	.5229
L 3 4 5 6	.49	.2401	.62	.3844
M 3 4 6	.20	.0400	.21	.0441
N 3 5 6	.43	.1849	.61	.3721
O 3 6	.19	.0361	.19	.0361
P 3 4	.18	.0121	.11	.0121
Q 3 5	.21	.0441	.19	.0361
R 4 5	.19	.0361	.23	.0529
S 4 6	.20	.0400	.24	.0576
T 5 6	.43	.1849	.60	.3600

** Significant at the .01 level
* Significant at the .05 level

NOTE: Coded number of predictor variables

2	PGR
3	RDS
4	Berkeley POQ
5	MMPI
6	SVIB

TABLE 4.6

PEARSON PRODUCT MOMENT CORRELATIONS BETWEEN THE CRITERION AND FIVE PREDICTOR VARIABLES
(MALE N=48; FEMALE N=23)

Vari-:	M	F	M	F	M	F	M	F	M	F	M	F
	PGR (X_2)		RDS (X_3)		POQ (X_4)		ES (X_5)		SVIB (X_6)		SR (X_1)	
X_2	-	-	.18	-.13	-.03	.01	.03	.17	.13	.11	.63	.72
X_3					.65	.57	-.06	-.42	.02	.16	.18	-.08
X_4							.00	-.20	-.21	.41	.10	-.10
X_5									-.36	-.25	-.08	.08
X_6											-.06	.07
X_1	.63	.72	.18	-.08	.10	-.10	-.08	.08	-.06	.07	-	-
M	5.19	6.39	-20.53	-26.13	-71.21	-63.74	54.42	49.65	52.79	55.17	6.67	7.22
SD	3.69	3.24	19.73	20.80	39.31	53.58	5.23	6.44	8.72	7.93	4.31	3.37

TABLE 4.7

MULTIPLE CORRELATION COEFFICIENTS BETWEEN THE CRITERION AND FIVE PREDICTOR VARIABLES

Predictors	: Male (N=48)		: Female (N=23)	
	: R	R^2	: R	R^2
A 2 3 4 5 6	.67**	.4489	.82**	.6624
B 3 4 5 6	.22	.0484	.18	.0324
C 2 4 5 6	.67**	.4489	.81**	.6561
D 2 4 5	.65**	.4225	.78**	.6084
E 2 4 6	.65**	.4225	.80**	.6400
F 2 3 4	.64**	.4096	.77**	.5929
G 3 5 6	.21	.0441	.14	.0196
H 4 5 6	.14	.0196	.18	.0324
I 2 5 6	.67**	.4489	.78**	.6084
J 2 3	.63**	.3969	.77**	.5929
K 2 4	.64**	.4096	.78**	.6084
L 2 5	.63**	.3969	.77**	.5929
M 2 6	.65**	.4225	.66*	.4356
N 3 5	.19	.0361	.09	.0081
O 3 6	.19	.0361	.11	.0121
P 3 4	.18	.0324	.10	.0100

** Significant at the .01 level
* Significant at the .05 level

TABLE 4.8

F-TEST RESULTS BETWEEN MULTIPLE R's OBTAINED FROM 23, 18, 14, FIVE AND ONE PREDICTOR VARIABLES (MALE N=48; FEMALE N=23)

n		Male	Female
23	R_1	.97	1.00
18	R_2	.80	.97
14	R_3	.76	.90
5	R_4	.67	.82
1	$r_{1,2}$	.63	.77
		F RESULTS	
$R_1 - R_2$		.27	0.00
$R_1 - R_3$		.21	0.00
$R_1 - R_4$		1.33	0.00
$R_2 - R_3$		.69	3.11
$R_2 - R_4$		2.77	1.56
$R_3 - R_4$		1.20	5.60*
$R_4 - r_{1,2}$		.99	8.27**

** Significant at the .01 level

* Significant at the .05 level

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